

**ABSTRACT OF THE DISCLOSURE**

**[0126]** Liquid cooling systems and apparatus are presented. A number of embodiments are presented. In each embodiment, a heat transfer system capable of engaging a processor and adapted to transfer heat from the processor is implemented. A variety of embodiments of the heat transfer system are presented. For example, several embodiments of a heat transfer system including electron-conducting material is presented. In one embodiment of the present invention, the electron conducting material operates under the peltier principal.